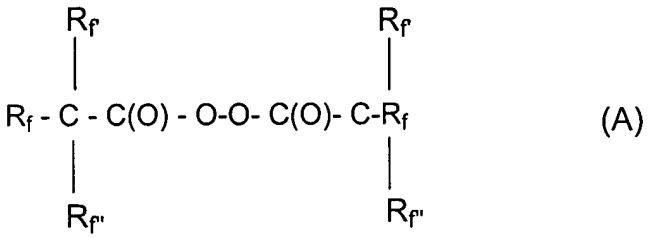
**AMENDMENTS TO THE CLAIMS**:

Please amend the claims as follows:

**1. (Cancel)**

**2. (Currently Amended)** A polymerization process of one or more fluorinated monomers wherein ~~the~~ perfluorodiacylperoxides ~~according to claim 1~~ are used as polymerization initiators ~~;~~ , said perfluorodiacylperoxides having the following structures:

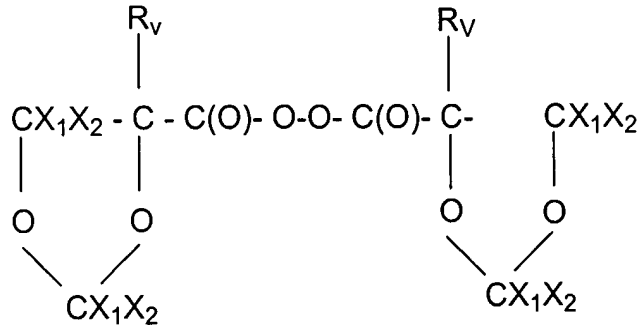


(A)

wherein:

when $R_f$ is F, $R_f$, $R_{f'}$ are both $-CF_3$;

when $R_f$ is $-CF_3$, $R_f$ and $R_{f'}$ are $C_1$-$C_3$ linear or branched perfluorooxyalkyl groups;

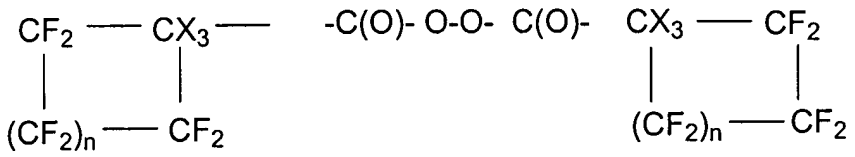


(B)

wherein:

$R_V$ is selected from F, perflurooxyalkyl, $C_1$-$C_3$ linear or branched perfluoroalkyl;

$X_1$, $X_2$ are selected from F, perfluoroalkyl, $C_1$-$C_3$ linear or branched perfluorooxyalkyl;




(C)

wherein:

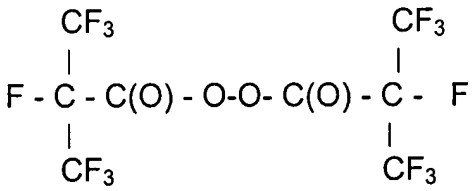
n = 1-3

$X_3$ is selected from F, $C_1$-$C_3$ linear or branched perfluoroalkyl, with the proviso that for n= 3, $X_3$ cannot be F;

wherein said perfluorodiacyl peroxides meet the following condition: the thermal decomposition constants $K_d$ ($sec^{-1}$) in the presence of water do not undergo substantial variations with respect to the thermal decomposition constants in absence of water.

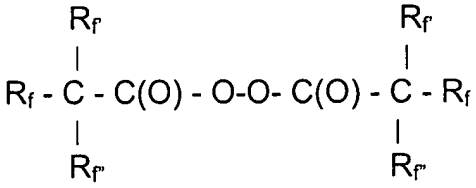
**3. (Original)** A polymerization process according to claim 2, wherein the polymerization is carried out in aqueous medium, in suspension, in emulsion or in microemulsion.

**4. (Previously Presented)** A polymerization process according to claim 2, wherein at temperatures of the order of 50° - 80°C, the perfluorodiacylperoxides of structure (C) or the compound of structure (A) having the formula:



are used.

**5. (Previously Presented)** A polymerization process according to claim 2, wherein at temperatures of the order of -20° - +25°C, the perfluorodiacylperoxides of structure (A) of formula:



are used, wherein when $R_f$ is $-CF_3$, $R_{f'}$ and $R_{f''}$ are $C_1$-$C_3$ linear or branched perfluorooxyalkyl groups.

**6. (Previously Presented)** A polymerization process according to claim 2, wherein the fluorinated monomers are selected from:

- $C_2$-$C_8$ perfluoroolefins;
- $C_2$-$C_8$ hydrogenated fluoroolefins;
- $C_2$-$C_8$ chloro-fluorolefins;
- $CF_2$=$CFOR_f$ (per)fluoroalkylvinylethers (PAVE), wherein $R_f$ is a $C_1$-$C_6$ (per)fluoroalkyl;
- $CF_2$=CFOX (per)fluoro-oxyalkylvinylethers, wherein X is: a $C_1$-$C_{12}$ alkyl, or a $C_1$-$C_{12}$ oxyalkyl, or a $C_1$-$C_{12}$ (per)fluorooxyalkyl having one or more ether groups;

- perfluorodioxoles;
- sulphonic monomers;
- fluorinated dienes.

**7. (Previously Presented)** A polymerization process according to claim 2, wherein the perfluorodiacylperoxide initiator is fed in a continuous way or by a single addition at the starting of the polymerization.

**8. (Previously Presented)** A polymerization process according to claim 2, wherein the amount of perfluorodiacylperoxide initiator is in the range 0.0001% - 5% by moles with respect to the amount of the fed monomers.

**9. (Previously Presented)** A polymerization process according to claim 6, wherein the $C_2$-$C_8$ perfluoroolefins are selected from the group consisting of tetrafluoroethylene (TFE) and hexafluoropropene (HFP).

**10. (Previously Presented)** A polymerization process according to claim 6, wherein the $C_2$-$C_8$ hydrogenated fluoroolefins are selected from the group consisting of vinyl fluoride (VF), vinylidene fluoride (VDF), trifluoroethylene, $CH_2$=CH-$R_f$ perfluoroalkylethylene, wherein $R_f$ is a $C_1$-$C_6$ perfluoroalkyl, and hexafluoroisobutene.

**11. (Previously Presented)** A polymerization process according to claim 6, wherein the $C_2$-$C_8$ chloro-fluorolefins are chlorotrifluoroethylene (CTFE).

**12. (Previously Presented)** A polymerization process according to claim 6, wherein for the $CF_2=CFOR_f$ (per)fluoroalkylvinylethers (PAVE), wherein $R_f$ is a $C_1$-$C_6$ (per)fluoroalkyl, the $C_1$-$C_6$ (per)fluoroalkyl is selected from the group consisting of $CF_3$, $C_2F_5$ and $C_3F_7$.

**13. (Previously Presented)** A polymerization process according to claim 6, wherein the perfluorodioxoles are selected from the group consisting of 2,2,4-trifluoro-5-trifluoromethoxy-1,3-dioxole (TTD) and 2,2-bis-trifluoromethyl-4,5-difluoro-dioxole (PPD).

**14. (Previously Presented)** A polymerization process according to claim 6, wherein the sulphonic monomers are $CF_2=CFOCF_2CF_2SO_2F$.

**15. (Previously Presented)** A polymerization process according to claim 6, wherein the fluorinated dienes are selected from the group consisting of $CF_2=CFOCF_2CF_2CF=CF_2$, $CF_2=CFOCCl_2CF_2CF=CF_2$, $CF_2=CFOCF_2OCF=CF_2$, $CF_2=CFOCF_2OCCl=CF_2$, and $CF_2=CFOC(CF_3)_2OCF=CF_2$.